

IN THE CLAIMS:

12/4/03

Tony
Independent
1,8, 15

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A lithographic apparatus comprising:

an illumination system that provides a beam of radiation;

a support structure that supports a patterning structure, the patterning structure configured to impart the beam of radiation with a pattern in its cross-section;

a substrate support that supports a substrate; and

a projection system that projects the patterned beam onto a target portion of the substrate,

the illumination system comprising

a radiation-production system that produces extreme ultra-violet radiation,

wherein particles produced as a by-product of extreme ultra-violet radiation production move substantially in a particle-movement direction; and

a radiation-collection system that collects the extreme ultra-violet radiation, the radiation-collection system being arranged to collect extreme ultra-violet radiation which radiates in a collection-direction, the collection-direction being substantially different from the particle-movement direction,

wherein the radiation-production system comprises two oppositely chargeable electrodes that generate an electric field therebetween, and the electric field substantially follows an axial direction of the radiation-production system.

2. (Cancelled).

3. (Currently Amended) A lithographic apparatus according to claim 2 1, wherein the collection-direction is a radial direction of the radiation-production system.

4. (Currently Amended) A lithographic apparatus according to claim 2 1, wherein at least one of the electrodes is substantially ring-shaped, and an axis of each ring-shaped electrode substantially coincides with the axial direction of the radiation-production system.

5. (Currently Amended) A lithographic apparatus according to claim 2 1, wherein the radiation-collection system has an optical axis substantially parallel to the axial direction of the radiation-production system.

6. (Currently Amended) A lithographic apparatus according to claim 2 1, wherein the radiation-collection system has an optical axis substantially parallel to the radial direction of the radiation-production system.

7. (Previously Presented) A lithographic apparatus according to claim 1, wherein the radiation-collection system comprises an optical system that provides the beam of radiation.

8. (Currently Amended) An illumination system for providing a beam of radiation, the illumination system comprising:

a radiation-production system that produces extreme ultra-violet radiation, wherein particles produced as a by-product of extreme ultra-violet radiation production move substantially in a particle-movement direction; and

a radiation-collection system that collects the extreme ultra-violet radiation, the radiation-collection system being arranged to collect extreme ultra-violet radiation which radiates in a collection-direction, the collection-direction being substantially different from the particle-movement direction,

wherein the radiation-production system comprises two oppositely chargeable electrodes that generate an electric field therebetween, and the electric field substantially follows an axial direction of the radiation-production system.

9. (Cancelled).

10. (Currently Amended) An illumination system according to claim 9 8, wherein the collection-direction is a radial direction of the radiation-production system.

11. (Currently Amended) An illumination system according to claim 9 8, wherein at least one of the electrodes is substantially ring-shaped, and an axis of each ring-shaped electrode substantially coincides with the axial direction of the radiation-production system.

12. (Currently Amended) An illumination system according to claim 9 8, wherein the radiation-collection system has an optical axis substantially parallel to the axial direction of the radiation-production system.

13. (Currently Amended) An illumination system according to claim 9 8, wherein the radiation-collection system has an optical axis substantially parallel to the radial direction of the radiation-production system.

14. (Previously Presented) An illumination system according to claim 8, wherein the radiation-collection system comprises an optical system that provides the beam of radiation.

15. (Currently Amended) A method for providing a beam of radiation, comprising:

producing extreme ultra-violet radiation and generating particles as a by-product of said production of extreme ultra-violet radiation, said particles moving substantially in a particle-movement direction; ~~and~~

collecting extreme ultra-violet radiation that radiates in a collection direction, said collection direction being substantially different from said particle-movement direction; and

generating an electric field along said particle-movement direction,

wherein the electric field substantially follows an axial direction of the radiation-production system.

16. (Cancelled).